

# HITACHI

## ***AM-FM STEREO CASSETTE RECORDER***

# ***Model HRD-MD10***

## ***INSTRUCTION MANUAL***

### **SAFEGUARDS**

Electrical energy can perform many useful functions. This unit has been engineered and manufactured to assure your personal safety. Improper use can result in potential electrical shock or fire hazards. In order not to defeat the safeguards, observe the following instructions for its installation, use and servicing.

### **IMPORTANT FOR U.K.:**

The wires in this mains lead are coloured in accordance with the following code:

<b>Blue:</b>	<b>NEUTRAL</b>
<b>Brown:</b>	<b>LIVE</b>

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows.

The wire which is coloured BLUE must be connected to the terminal which is marked with letter N or coloured BLACK.  
The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

## UNPACKING

Do not throw away the HRD-MD10 carton and packing material. These come in handy if you ever have to transport or ship your unit, and they can help substantiate any claim for damage incurred in transit.

## INSTALLATION

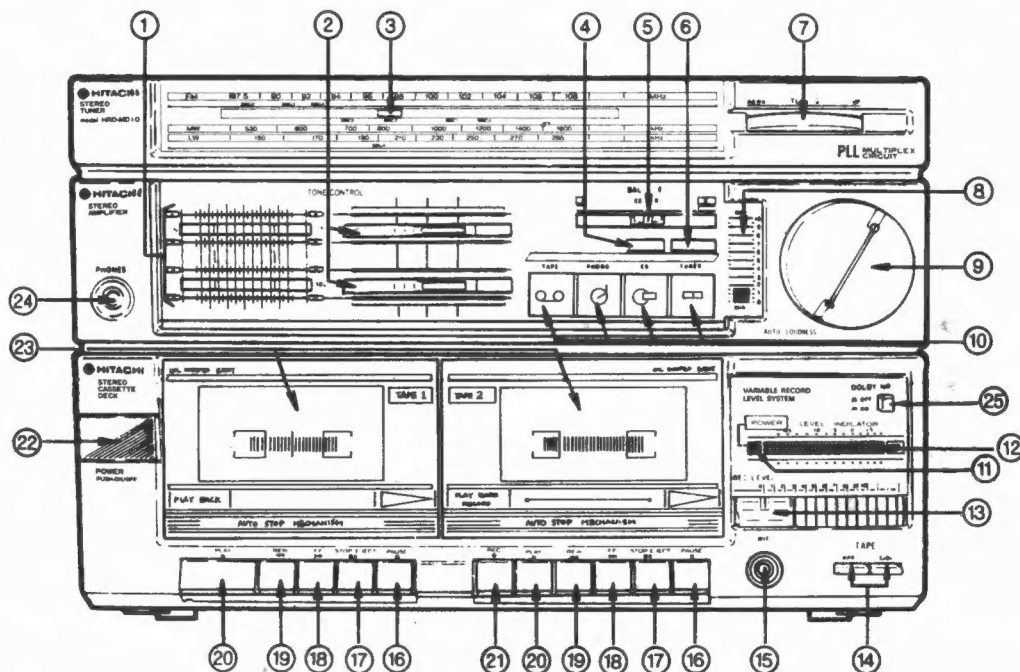
Avoid the use of this unit in high temperature areas (such as near heating equipment) or in direct sunlight. The unit should be installed on a solid base to avoid vibrations (vibrating floor boards etc.) during record playing or loudspeakers feedback vibrations (if the loudspeakers and the main unit are installed on the same base).

## LOUDSPEAKERS

Both loudspeakers should be installed at the same distance from the listener. For the best stereo listening the distance between the two loudspeakers should not be too great or too small. By connecting stereo headphones it is possible to switch off the loudspeakers for private listening (See "Listening through headphones" section).

Noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

## NAME OF PARTS



① Tone control indicators

② Tone controls

③ Dial pointer

④ MW/LW selector

⑤ Balance control

⑥ FM/AM selector

⑦ Tuning control

⑧ Volume indicator

⑨ Volume control

⑩ Function selector

⑪ Power indicator

⑫ Level indicator

⑬ Record level control

⑭ Tape selector

⑮ Microphone jack

⑯ Pause button (||)

⑰ Stop/Eject button (□▲)

⑱ Fast forward button (▶▶)

⑲ Rewind button (◀◀)

⑳ Playback button (▷)

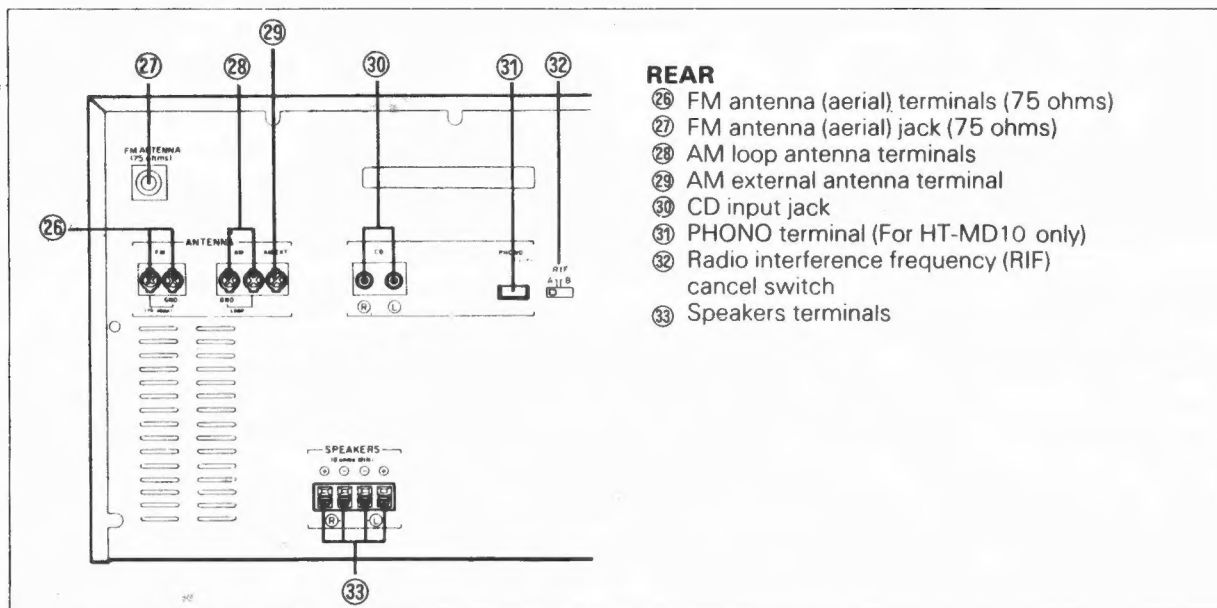
㉑ Recording button (○)

㉒ Power switch

㉓ Cassette holders

㉔ Headphones jack

㉕ Dolby NR switch



## PRECAUTIONS

- Never use strong detergents or solvents for cleaning the cabinet of this unit as they could damage the surface finish.
- Protect the unit against excessive heat (e.g. direct sunlight), dust and moisture.
- Be careful not to damage the power supply cord. Be sure to hold the plug when pulling it out; do not pull the cord.

## TUNER OPERATION

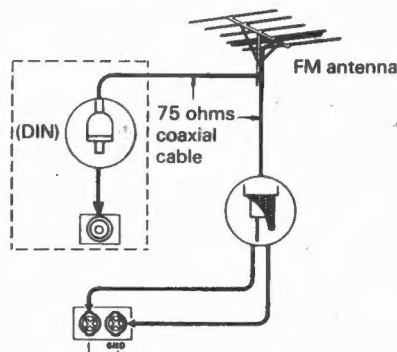
**Note: When operating the tuner, set the Power of CD player to "OFF"**

1. Insert the power supply cord into a convenient AC outlet and press the Power switch ② to the "ON" position then, Power indicator ⑪ lights.
2. Set the Function selector ⑩ to the "TUNER" position.
3. Press the FM/AM selector ⑥ (and MW/LW selector ④) to select the desired band.
4. Turn the Tuning control ⑦ to select the desired station.
5. Adjust the Volume control ⑨ and Graphic equalizer controls ②.
6. Adjust the Balance control ⑤ so that the sound seems to come from a point midway between the two loudspeakers.
7. To turn off the radio, set the Power switch ② to "OFF".

## ANTENNA (AERIAL) INFORMATION

### FM Reception:

It is necessary to connect an external antenna (aerial) [either a dipole or outside antenna (aerial)] to the FM antenna (aerial) socket (75 ohms) ②⑦ or FM antenna (aerial) terminals (75 ohms) ②⑥



### AM (MW, LW) Reception:

#### ● AM loop antenna

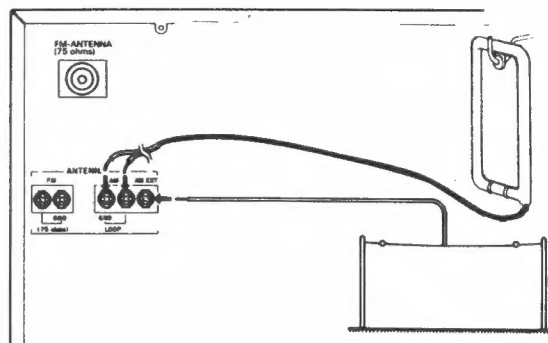
Always ensure that the accessory AM loop antenna is connected to the AM loop antenna terminals ⑳ on the rear panel of the unit for use.

Detach the AM loop antenna from the set and locate the position which provides the clearest reception. (For instance, it can be used by attaching to a wall or to the back of the audio rack.)

#### ● Outdoor AM antenna

When using the unit at a distance from the broadcasting stations or nearby a ferro-concrete building where the signal field strength is weak, an outdoor AM antenna should be installed.

Connect the vinyl wire to the AM external antenna terminal ㉑ on the rear of the unit and secure it where reception is optimum. **The AM loop antenna should not be disconnected.**



### RADIO INTERFERENCE (RIF) CANCEL SWITCH

When recording an AM program, beat interference (created by the station's frequency and harmonics of the recording bias frequency) may occur. In this case, the Radio interference (RIF) cancel switch ㉓ should be set to another position.

## TURNTABLE AND CD PLAYER OPERATION

### See Connections on page 7.

1. Depress the Power switch ㉔ to the "ON" position, and the Function selector ⑩ to the "PHONO" or "CD" position.
2. For operation of the turntable or CD player refer to their operating instructions.

## CASSETTE TAPE DECK OPERATION

Only TAPE-2 record, it is impossible to record with TAPE-1.

### INSERTION OF CASSETTE

Press the Stop/Eject button (□▲) ⑰ firmly to open the Cassette holder ㉕. Then, insert the cassette with the opening face-down.

### PLAYBACK

1. Press the Power switch ㉔ to the "ON" position, and the Function selector ⑩ to the "TAPE" position.
2. Insert the cassette tape.  
Set the Tape selector switches ⑭, matching it to the tape to be played back.
3. Set the Dolby NR switch ㉖ according to the tape.
4. Press the Playback button (▷) ㉗ to start playback.  
Adjust the Volume control ⑨, Graphic equalizer control ② and Balance control ⑤.
5. When a temporary halt is desired during playback, press the Pause button (||) ⑮.  
Press the Pause button (||) ⑮ again to resume playback.
6. To stop playback, press the Stop/Eject button (□▲) ⑰.

### NOTE:

When operates \_\_\_\_\_ during play TAPE-1, the playback sound of TAPE-1 cut off.

### CONTINUOUS PLAYBACK (TAPE-2 ⇄ TAPE-1)

1. Press the Power switch ㉔ to the "ON" position, and the Function selector ⑩ to the "TAPE" position.
2. Insert the cassette tape both TAPE-1 and TAPE-2.  
Set the Tape selector ⑭ matching it to the tape.
3. Press the playback button (▷) ㉗ of TAPE-2 to start.
4. Press the Pause button (||) ⑮ and Playback button (▷) ㉗ of TAPE-1. When TAPE-2 comes to end, TAPE-1 starts playback.

### FAST FORWARD AND REWIND

Press the appropriate button (▶▶) ⑯ or (◀◀) ⑰ until it locks; to release the button, press the Stop/Eject button (□▲) ⑰.

### RECORDING (TAPE-2 only) From radio program

1. Operates 1 – 4 in the description of tuner operation.

2. Insert a cassette tape.
3. Set the Tape selector ⑭ matching it to the tape to be recorded.
4. By your wish set the Dolby NR switch ②.
5. Press the Pause button (||) ⑬.
6. Press the Recording button (O) ②① and Playback button (▷) ②② simultaneously.
7. Adjust the Record level controls ⑬ so that the Level indicator ⑫ become near by "0 dB".
8. Release the Pause button (||) ⑬ Recording starts.
9. Press the Pause button (||) ⑬ for temporary stops during recording.  
Press the Pause button (||) ⑬ again to resume recording.
10. To stop recording, press the Stop/Eject button (□▲) ⑮.

**NOTE:**

Recording will not be made if TAPE-1 is operated (played back, fast-forwarded or rewind) while recording from radio program, turntable, or CD.

**From turntable**

At using HT-MD10, connect to PHONO terminal ③①.

1. Press the Power switch ② to "ON" and the Function selector ⑩ to the "PHONO" position.
2. Play the desired disc.
3. Proceed with steps 2 to 10 in "RECORDING from radio program".

**From microphone**

1. Press the Power switch ② to "ON", and the Function selector ⑩ to the "TAPE" position.
2. Connect a microphone plug into the Microphone jack ⑮.

**NOTES:**

- The sound from the microphone can be recorded. However, the sound cannot be heard from the speakers or headphones.
  - Suitable impedance for this jack is 1 kohms or less.
3. Proceed with steps 2 to 10 in "RECORDING from radio program".

**From CD player**

Connect the CD player to CD input jacks ③②.

1. Press the Power switch ② to "ON" and the Function selector ⑩ to the "CD" position.
2. Play the desired disc.
3. Proceed with steps 2 to 10 in "RECORDING from radio program".

**DUBBING(Tape copy)**

The dubbing is possible from TAPE-1 to TAPE-2 only.

1. Press the Power switch ② to "ON" and set the Function selector ⑩ to the "TAPE" position.
2. Set the Tape selector ⑭ matching it to the tape to be recorded.

3. Press the Pause button (||) ⑬ and Playback button (▷) ②② of TAPE-1.
4. Press the Recording button (O) ②① and Playback button (▷) ②② of TAPE-2 simultaneously, and TAPE-1 starts playback automatically, Tape dubbing starts.

**NOTES:**

- Follow the above procedure for tape dubbing.
- It is possible to monitor sounds on other program sources while dubbing a tape program from TAPE-1 to TAPE-2.

This equipment should not be used for taking copies of tapes in breach of copyright.  
Copyright subsists in most pre-recorded tapes.

**MIXING RECORDING**

Recordings from the turntable, CD player or tuner, and from the microphone can be performed at the same time.

1. Set the Function selector ⑩ to the desired position.
2. Play the desired disc or receive the broadcast.
3. Insert the microphone plug into the Microphone jack ⑮.
4. Proceed with Steps 2 to 10 in "RECORDING from radio program".

**NOTES:**

- The mixing level between the microphone and sound is fixed.
- The sound from the microphone cannot be heard from the speakers or headphones.

**AUTO STOP**

If the tape is fully wound during recording or playback, it stops automatically at the tape end. To stop the tape at any other position, press the Stop/Eject button (□▲) ⑮.

**ERASING**

When a recording has being made, any sound already recorded on the tape is automatically erased before a new recording is made. Erasure is accomplished only when this unit is in the recording mode. To erase a tape without making a new recording, set the Function selector ⑩ to the "TAPE" position and Record level control ⑬ to the "O" position and press the Recording button (O) ②① and Playback button (▷) ②② simultaneously after removing the microphone plug.

## AMPLIFIER OPERATION

### LISTENING THROUGH HEADPHONES

Plug the headphones into the headphones jack ② for private listening. This automatically disconnects the loudspeakers.

### GRAPHIC EQUALIZER CONTROLS

The audio spectrum is divided into 2 bands. When each knob is right, the sound is emphasized, and when each knob is left, the sound is attenuated. Adjust them to obtain your favorite tone. The characteristics become flat with the 2 knobs set to the center ("0") positions.

## CASSETTE MAINTENANCE

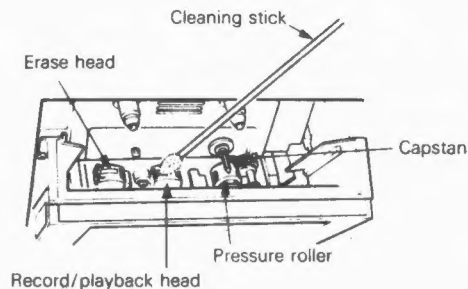
### HEAD CLEANING

Clean the heads, capstan and pressure roller periodically with a head cleaning stick moistened with alcohol, or methylated spirit.

Never use a sharp or metallic instrument or tool for cleaning these parts.

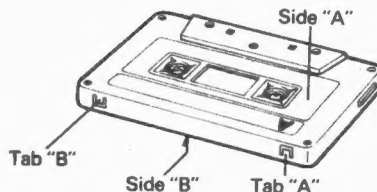
### DEMAGNETIZATION

The head inevitably becomes magnetized slightly after long use. As a result, high-frequency sound may be lacking or noise is generated. Perform head demagnetization occasionally with a head eraser.



## RECORDING PROTECTION

If the plastic tabs on the side of the cassette are removed, recordings can be protected against accidental erasure. If recording is to be remade, cover hole of removed tab with adhesive plastic tape.

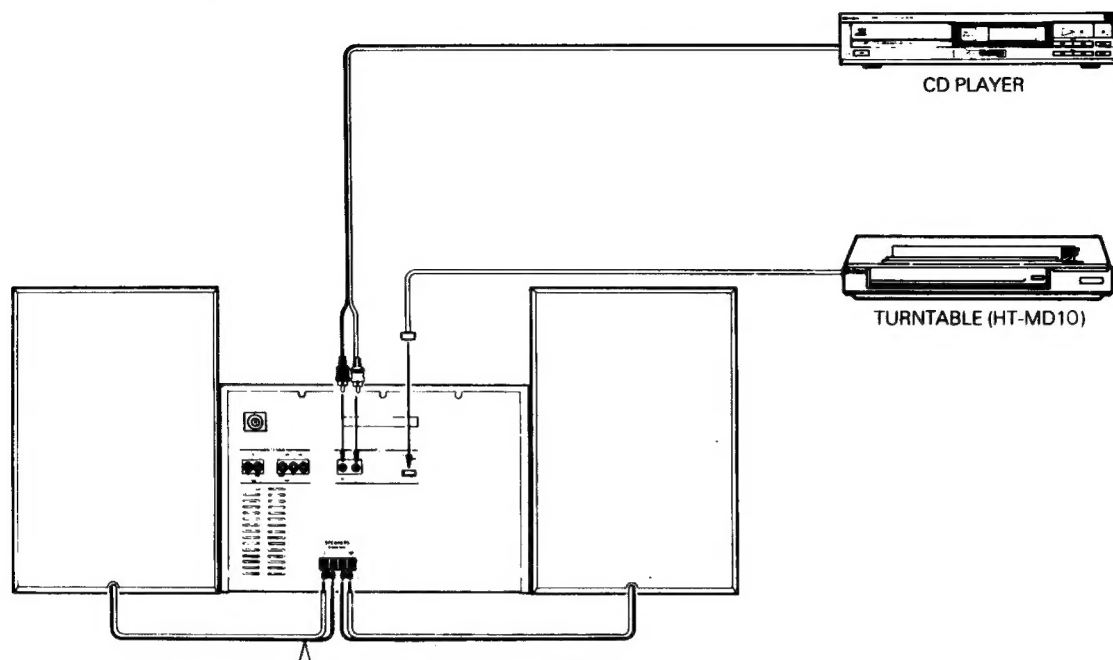


## DOLBY NR (Noise Reduction) SYSTEM

With the Dolby NR system, during recording, the level of the low passages is increased considerably; during playback these passages are reduced to their original level. Therefore, the tape hiss is also reduced by the same amount and is not audible during playback. Before playback of a cassette, it should be ascertained if the Dolby NR switch ② is set to the proper position.

- Cassettes recorded through the Dolby NR circuit must be played back in the Dolby NR mode (if played back with normal playback equalization, the sound seems too sharp).
- Normal recordings should not be played back through the Dolby NR system (if played back with Dolby NR equalization, the sound will seem "muddy").

## CONNECTIONS



- This unit is provided with terminals for loudspeakers. When connecting the speaker cords, push the red and black buttons on the speaker terminals and connect them without confusing (+), (-) and L, R.

- The speaker impedance suitable for the HRD-MD10 is 8 to 16 ohms and speakers with a suitable max. permissible input should be used.

# SPECIFICATIONS

## GENERAL SPECIFICATIONS

Power Supply: ~ 240V, 50 Hz  
 Power Consumption: 75W  
 Dimensions: 370 (W) x 246 (H) x 264 (D) mm  
 [14-9/16" (W) x 9-11/16" (H) x  
 10-3/8" (D)]  
 Weight: 6.4 kg (15 lbs. 6 oz.)

## AMPLIFIER SECTION

Audio Output: 10W x 2 (8 ohms, 1 kHz)  
 Music Power Output: 20W x 2 (8 ohms, 1 kHz)  
 Tone Control: 100 Hz  $\pm$  8 dB  
 10 kHz  $\pm$  8 dB  
 Input Sensitivity and Impedance: CD 150mV/50 kohms  
 MIC 2mV/3 kohms  
 Output Impedance: Speaker: 8 to 16 ohms  
 Headphones: 8 ohms

## TUNER SECTION

Circuit System: FM/MW/LW 3-band  
 superheterodyne  
 Tuning Range: FM: 87.5 to 108 MHz  
 AM (MW): 530 to 1605 kHz  
 LW: 150 to 285 kHz  
 IHF Sensitivity: FM: 5  $\mu$ V (S/N 26 dB)  
 AM (MW): 600  $\mu$ V/m  
 (S/N 20 dB)  
 LW: 2,500  $\mu$ V/m (S/N 20 dB)  
 FM Stereo separation: 35 dB  
 FM S/N (Signal to noise Ratio): 60 dB  
 Antennas: FM: External antenna (aerial)  
 AM (MW/LW): Loop antenna  
 Out door antenna

## TAPE DECK SECTION

Cassette tape deck  
 Tape: Cassette tape  
 Tape Speed: 4.75 cm/s (1-7/8")  
 Recording System and Bias Frequency: AC bias, 85 kHz  
 Track System: 4 track 2 channel  
 Erasing System: AC erase  
 Frequency Response: Normal: 70 Hz to 14 kHz  
 CrO<sub>2</sub>: 70 Hz to 14 kHz  
 Signal-to-Noise Ratio: Dolby ON: 58 dB  
 OFF: 50 dB  
 Crosstalk: 60 dB  
 Erase Ratio: 65 dB  
 Motor: DC Motor

Specifications and design may be changed without notice for improvement.

This appliance conforms to the requirements of B.S. 800, 1983.

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